

CLAIMS

What is claimed is:

5 1. A method of representing a net of an
integrated circuit die comprising steps of:

 (a) receiving as input vertices of a net in an
integrated circuit die;

10 (b) calculating rounded coordinates having a
selected resolution for each of the vertices;

 (c) calculating rounded coordinates having the
selected resolution along the net between each of the
vertices; and

15 (d) generating as output the rounded coordinates to
represent the net.

2. The method of Claim 1 wherein step (c)
comprises incrementing an X-coordinate or a Y-coordinate
of the rounded coordinate by the selected resolution to
20 generate rounded coordinates between each vertex.

25 3. The method of Claim 2 further comprising a
step of combining multiple rounded coordinates having an
identical value for different vertices in the net into a
single rounded coordinate.

4. The method of Claim 2 further comprising a
step of entering the rounded coordinates representing the
net into a database including at least one of a wafer lot

identification, a wafer identification, a die identification, and a layer identification.

5. The method of Claim 2 further comprising a step of finding a defect on the integrated circuit die by associating a rounded coordinate that occurs more than a selected number of times in a plurality of failed nets with a location of the defect.

10 6. The method of Claim 2 further comprising a step of finding a number of times each rounded coordinate occurs in a plurality of failed nets.

15 7. The method of Claim 6 further comprising a step of displaying the number of times each rounded coordinate occurs in a plurality of failed nets.

20 8. The method of Claim 7 further comprising a step of associating a color with the number of times each rounded coordinate occurs in a plurality of failed nets.

9. The method of Claim 6 further comprising a step of filtering the rounded coordinates by at least one of a wafer lot, a wafer, a die, an area, and a layer.

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10. The method of Claim 1 further comprising a step of generating a plot of a value of a net parameter summed over identical rounded coordinates in multiple nets.

11. A computer program product for representing a net of an integrated circuit die comprising:

5 a medium for embodying a computer program for input to a computer; and

a computer program embodied in the medium for causing the computer to perform steps of:

(a) receiving as input vertices of a net in an integrated circuit die;

10 (b) calculating rounded coordinates having a selected resolution for each of the vertices;

(c) calculating rounded coordinates having the selected resolution along the net between each of the vertices; and

15 (d) generating as output the rounded coordinates to represent the net.

12. The computer program product of Claim 11 wherein step (c) comprises incrementing an X-coordinate or a Y-coordinate of the rounded coordinate by the selected resolution to generate rounded coordinates between each vertex.

25 13. The computer program product of Claim 12 further comprising a step of combining multiple rounded coordinates having an identical value for different vertices in the net into a single rounded coordinate.

14. The computer program product of Claim 12 further comprising a step of entering the rounded coordinates representing the net into a database including at least one of a wafer lot identification, a
5 wafer identification, a die identification, and a layer identification.

10 15. The computer program product of Claim 12 further comprising a step of finding a defect on the integrated circuit die by associating a rounded coordinate that occurs more than a selected number of times in a plurality of failed nets with a location of the defect.

15 16. The computer program product of Claim 12 further comprising a step of filtering the rounded coordinates by at least one of a wafer lot, a wafer, a die, an area, and a layer.

20 17. The computer program product of Claim 12 further comprising a step of finding a number of times each rounded coordinate occurs in a plurality of failed nets.

25 18. The computer program product of Claim 17 further comprising a step of displaying the number of times each rounded coordinate occurs in a plurality of failed nets.

19. The computer program product of Claim 18 further comprising a step of associating a color with the number of times each rounded coordinate occurs in a plurality of failed nets.

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20. The computer program product of Claim 12 further comprising a step of generating a density plot of a net parameter summed over identical rounded coordinates in multiple nets.

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21. A method of representing a net comprising steps of:

(a) receiving as input vertices of a net;
(b) selecting a resolution for representing spatial
15 features of the net;

(c) calculating rounded coordinates having the selected resolution for each of the vertices;

(d) calculating rounded coordinates having the selected resolution along the net between the vertices;

20 and

(e) generating as output the rounded coordinates to represent the net.

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